

### Abstract

In axial magnetic bearing apparatus in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, and electromagnets are disposed on opposite sides of the rotary disc so as to have suitable very small distances therefrom respectively, so as to bear the rotating shaft axially in a non-contact state, a deep groove for forming an air layer having large magneto-resistance is provided all over the outer circumference of the rotary disc. Thus, formation of a magnetic circuit not contributing to position control is relieved, and the weight of the disc is reduced so that the position control performance of the axial magnetic bearing and the natural frequency of a rotor are improved.